

## CLAIMS:

1. A method of filling in a parallelogram (ABCD) comprising a first vertex (A), a second vertex (B), a third vertex (C) and a fourth vertex (D), said method comprising:
  - a step (10) of calculating the coordinates of the points on a first segment (AB) between the first vertex (A) and the second vertex (B),
  - 5 - a step (11) of calculating the coordinates of the points on a second segment (AC) between the first vertex (A) and the third vertex (C),
  - a step (12) of calculating the coordinates of the points on a third segment (BD) between the second vertex (BD) and the fourth vertex D,
  - an iterative step (20) of calculating the coordinates of the points on a segment  
10 parallel to the first segment AB and included within the parallelogram ABCD.
2. A method of filling in a parallelogram (ABCD) as claimed in claim 1, characterized in that said iterative step (20) of calculating the coordinates of the points on a segment parallel to the first segment (AB) also comprises a substep (21) of calculating  
15 coordinates of the points on a segment lying between a point ( $A_i$ ) belonging to the second segment (AC) and a point ( $B_i$ ) belonging to the third segment (BD), the points ( $A_i$ ) and ( $B_i$ ) being situated at the same distance from the first vertex (A) and from the second vertex (B) respectively, in a horizontal (Ax) or vertical (Ay) favored direction.
- 20 3. A method of filling in a parallelogram (ABCD) as claimed in claim 1, characterized in that said iterative step (20) of calculating the coordinates of a segment parallel to the first segment AB comprises a substep (22) of translating the first segment (AB) in a horizontal or vertical favored direction, intended to supply a translated segment  $A'_iB'_i$  included in the parallelogram (ABCD), and a test substep (23) intended to test whether a  
25 point (P) on the translated segment ( $A'_iB'_i$ ) is included in the parallelogram ABCD.
4. A method of filling in a parallelogram (ABCD) as claimed in claim 3, characterized in that said iterative step (20) of calculating the coordinates of the points on a segment parallel to the first segment (AB) also comprises:

- a substep (24) of calculating the coordinates of a projection (E) of the third vertex (C) on an extension of the first segment (AB) and parallel to the favored direction,
  - a substep (25) of calculating the coordinates of the points of a segment (EA) formed by the projection (E) and the first vertex (A),
  - 5 - a substep (26) of translating the segment (EA) in the favored direction, intended to supply a segment ( $E_iA'_i$ ) parallel to the segment (EA),
  - a test substep (27) intended to test whether a point (P) on a segment ( $E_iA'_i$ ) translated from (EA) is included in the parallelogram (ABCD).
- 10 5. A method of filling in a parallelogram (ABCD) as claimed in claim 1, characterized in that said steps of calculating coordinates of the points on a segment use a mid-point algorithm.
6. A system for tracing and filling in a parallelogram (ABCD) for a graphics
- 15 screen, intended to supply the coordinates of points included in the parallelogram from the coordinates of a first vertex (A), a second vertex (B), a third vertex (C) and a fourth vertex (D), said system comprising:
- means (10) for calculating the coordinates of the points on a first segment between the first vertex A and the second vertex B,
  - 20 - means (11) for calculating the coordinates of the points on a second segment between the first vertex A and the third vertex C,
  - means (12) for calculating the coordinates of the points on a third segment BD between the second vertex B and the fourth vertex D,
  - iterative means (20) for calculating the coordinates of the points on a segment
  - 25 parallel to the first segment AB and included within the parallelogram ABCD.
7. A computer program product comprising a set of instructions which, when they are loaded into a circuit, cause the latter to implement the method as claimed in claim 1.